RUST GEOTECH INC.

Spectral Gamma-Ray Borehole
Log Data Report

Borehole 51-15-04

Log Event A

Borehole Information

Farm : TX	**Tank :** TX-115	**Site Number :** 299-W15-118
N-Coord : 41,947	**W-Coord :** 75,907	**TOC Elevation :** 668.60
Water Level, ft :	**Date Drilled :** 10/31/1970	

Casing Record

Type : Steel-welded	Thickness : 0.280	ID, in. : 6
Top Depth, ft. : 0	Bottom Depth, ft. : 100	

Borehole Notes:
According to the driller's records, this borehole was not perforated or grouted. The casing thickness is presumed to be 0.280 in., on the basis of the published thickness for schedule-40, 6-in. steel tubing.

Equipment Information

Logging System : 2	**Detector Type :** HPGe	**Detector Efficiency:** 35.0 %
Calibration Date : 10/1995	**Calibration Reference :** GJPO-HAN-3	**Logging Procedure :** P-GJPO-1783

Log Run Information

Log Run Number : 1	**Log Run Date :** 2/13/1996	**Logging Engineer:** Gary Lekvold
Start Depth, ft.: 0.0	**Counting Time, sec.:** 100	**L/R :** L **Shield :** N
Finish Depth, ft. : 19.0	**MSA Interval, ft. :** 0.5	**Log Speed, ft/min.:** n/a

Log Run Number : 2	**Log Run Date :** 2/13/1996	**Logging Engineer:** Gary Lekvold
Start Depth, ft.: 94.5	**Counting Time, sec.:** 100	**L/R :** L **Shield :** N
Finish Depth, ft. : 18.0	**MSA Interval, ft. :** 0.5	**Log Speed, ft/min.:** n/a

Borehole 51-15-04

Log Event A

Analysis Information

Analyst : S.D. Barry

Data Processing Reference : P-GJPO-1787 Analysis Date : 12/20/1996

Analysis Notes :

This borehole was logged in two log runs. The pre- and post-survey field verification spectra met the acceptance criteria established for the peak shape and detector efficiency, confirming that the SGLS was operating within specifications. The energy calibration and peak-shape calibration from these spectra were used to establish the channel-to-energy parameters used in processing the spectra acquired during the logging operation.

Casing correction factors for a 0.280-in.-thick steel casing were applied during analysis.

The man-made radionuclides detected in this borehole were Cs-137 and Co-60. Cs-137 contamination was measured continuously from the ground surface to about 40 ft, intermittently from 40 to 57 ft, and continuously from 57 ft to the the bottom of the borehole. The maximum Cs-137 concentration was 10.1 pCi/g at 7.5 ft.

Measurable Co-60 contamination was detected at 29 ft, 47.5 ft, and 52 ft. The maximum Co-60 concentration was 0.3 pCi/g at 52 ft. The K-40 log plot shows a region of decreased concentration values between 42 and 48.5 ft. The K-40 concentrations below 48.5 ft are higher than the concentration values in the upper 42 ft of the borehole.

Additional information and interpretations of log data are included in the main body of the Tank Summary Data Reports for tanks TX-114 and TX-115.

Log Plot Notes:

Separate log plots show the man-made (Cs-137 and Co-60) and the naturally occurring (KUT) radionuclides. The natural radionuclides can be used for lithology interpretations. The headings of the plots identify the specific gamma rays used to calculate the concentrations.

A combination plot includes the man-made and natural radionuclides, the total gamma derived from the spectral data, and the Tank Farms gross gamma log. The gross gamma plot displays the latest available digital data. No attempt has been made to adjust the depths of the gross gamma logs to coincide with the SGLS data.

Uncertainty bars on the plots show the statistical uncertainties for the measurements as 95-percent confidence intervals. Open circles on the plots give the MDL. The MDL of a radionuclide represents the lowest concentration at which positive identification of a gamma-ray peak is statistically defensible.

A time-sequence of plots from 1975 to 1987, created from historical gross gamma logs, is also provided with this log data report.